

## AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A wireless receiving method implemented in a wireless receiving apparatus having a single MCU (microprocessor control unit), wherein after the single MCU has sequentially received signals having different frequencies transmitted from a plurality of peripheral devices in a ~~mode of~~ multi-segment multi-task data processing mode and finished a process for identifying the received signals, the single MCU ~~proceeds the process~~ performs the steps of:

- (a) reading a predetermined processing procedure with respect to a first signal from a memory;
- (b) performing a predetermined process with respect to ~~the-a~~ first signal based on the predetermined processing procedure;
- (c) storing an index of the-a last finished step of said predetermined process with respect to the first signal in the memory, after at least one step of the predetermined processing procedure ~~process~~ has been performed with respect to the first signal;
- (d) reading the predetermined processing procedure with respect to a second signal from the memory;
- (e) performing ~~the-a~~ predetermined process with respect to the second signal based on the predetermined processing procedure;
- (f) storing an index of the-a last finished step of said predetermined process with respect to the second signal in the memory, after at least one step of the predetermined processing procedure ~~process~~ has been performed with respect to the second signal;
- (g) determining whether all of the predetermined processes have been performed ~~about on~~ the signals based on the predetermined processing procedure with respect to the signals; and

(h) sending all of the processed signals to a computer for processing based on data contained in the signals[[,]] if a result of the determination in step (g) is positive, and otherwise looping back to step (a).

2. (Currently Amended) The method of claim 1, further comprising the steps of:

(i) reading a signal conversion table stored in the memory, after the signal has been received;

(j) determining whether a type of the received signal has a corresponding type of a signal recorded in the conversion table;

(k) determining whether a length of the received signal is correct based on data of a corresponding signal recorded in the conversion table, if a result of the determination in step (j) is positive; and

(l) decoding the signal based on a corresponding decoding procedure recorded in the conversion table[[,]] if a result of the determination in step (k) is positive, and sequentially reading components of the decoded signal, and sending all of the processed signals to the computer so that a CPU (central processing unit) of the computer is capable of processing based on data contained in the signal.

3. (Currently Amended) The method of claim 2, further comprising the step of, if the result of the determination in step (j) is negative, discarding the signal so as to continue to receive signal signals.

4. (Currently Amended) The method of claim 2, further comprising the step of, if the result of the determination in step (k) is negative, discarding the signal so as to continue to receive signal signals.

5. (Original) The method of claim 2, wherein the processing based on data contained in the signal comprises a first processing with respect to a wireless peripheral device corresponding to the signal.

6. (Original) The method of claim 2, wherein the processing based on data contained in the signal comprises a second processing with respect to an instruction or data corresponding to the signal.

7. (Currently Amended) A wireless receiving apparatus comprising:

a signal receiving circuit for receiving signals having different frequencies from a plurality of peripheral devices and classifying the signals based on the frequencies;

a memory for storing data and a conversion table which is capable of recording types, processing procedures, and decoding procedures of the plurality of signals; and

~~a~~an MCU (microprocessor control unit) electrically coupled to the signal receiving circuit, the memory, and a computer respectively so that the MCU is capable of receiving the signals from the peripheral device, wherein the received signals are send to the MCU for identification, and by utilizing a ~~mode of~~ multi-segment multi-task data processing the MCU is capable of reading the corresponding processing procedure and decoding procedure from the memory, performing a predetermined process with respect to a first signal based on the processing procedure~~[,]~~ for the first signal after at least one step has been performed with respect to the first signal, store storing in the memory an index of the a last finished step performed with respect to the first signal in the memory, performing a predetermined process with respect to a second signal based on the processing procedure~~[,]~~ for the second signal after at least one step has been performed with respect to the second signal, store storing in the memory an index of the a last finished step performed with respect to the second signal in the memory, repeats and repeating until a set of steps have been performed with respect to the first and the second signals, the MCU continues continuing to perform steps immediately by following the indices of the previous set of steps with are stored in the memory for carrying out a next set of steps, repeats repeating until all of the signals have been processed, and finally sends sending all of the processed signals to the computer for processing based on data contained in the signals.